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SPECIFICATION FOR *MAHUA* CAKE FOR MANURING

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SPECIFICATION FOR *MAHUA* CAKE FOR MANURING

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AMENDMENT NO. 1 MAY 2012
TO
IS 8559 : 1977 SPECIFICATION FOR *MAHUA* CAKE FOR MANURING

[*Page* 5, *clause* **4.2**(d)] — Substitute 'Net quantity, and' *for* 'Net mass, and'.

(FAD 7)

Reprography Unit, BIS, New Delhi, India

Indian Standard

SPECIFICATION FOR *MAHUA* CAKE FOR MANURING

0. FOREWORD

0.1 This Indian Standard was adopted by the Indian Standards Institution on 5 July 1977, after the draft finalized by the Acids and Fertilizers Sectional Committee had been approved by the Petroleum, Coal and Related Products Division Council.

0.2 *MAHUA* cakes are used in large quantities for manurial purposes. *MAHUA* cakes besides supplying nitrogen and organic matter to the soil possess additional quality of killing worms which is attributed to the presence of saponins.

0.3 In the preparation of this standard assistance has been derived from the data furnished by the manufacturers of the oilcake and research institutes/laboratories particularly from the All India Non-edible Oil Industry Association, Pune.

0.4 For particle size, the use of IS Sieves conforming to IS : 460-1962* is prescribed. Where IS Sieves are not available, other standard sieves as judged from aperture size may be used.

0.5 For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS : 2-1960†. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

1. SCOPE

1.1 This standard prescribes requirements and methods of sampling and test for *MAHUA* cake for manuring. The oil cake obtained by all the processes including solvent extraction is covered by this standard.

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*Specification for test sieves (*revised*).

†Rules for rounding off numerical values (*revised*).

2. TERMINOLOGY

2.1 For the purpose of this standard, the following definition shall apply.

2.1.1 *MAHUA Cake* — The material obtained by pressing or extracting clean *MAHUA* seed after it has been well hulled or shelled.

3. REQUIREMENTS

3.1 Description — The material shall be uniform in texture clean and free from adulterants, such as sand, dust, metallic pieces.

3.2 The material shall pass through 2·36-mm IS Sieve of which not less than 70 percent shall pass through 850-microns IS Sieves (*see* IS : 460 - 1962*).

3.3 The material shall comply with the requirements given in Table 1 when tested according to the methods prescribed in IS : 7874 (Part I)-1975† and Appendix A. Reference to relevant clauses of IS : 7874 (Part I)-1975† is given in col 5 of the table.

TABLE 1 REQUIREMENTS OF *MAHUA* CAKE FOR MANURING

Sl No.	Characteristic	Requirement	Methods of Test (Ref to Cl No. in)	
			Appendix A	IS : 7874 (Part I)-1975*
(1)	(2)	(3)	(4)	(5)
i)	Moisture, percent by mass, *Max*	8·5	—	4
ii)	Water insoluble organic nitrogen, percent by mass, on moisture-free basis, *Min*	2·5	A-3	—
iii)	Total ash, percent by mass, on moisture-free basis, *Min*	6·0	—	9
iv)	Acid insoluble ash, percent by mass on moisture-free basis, *Max*	3·0	—	10

*Methods of tests for animal feeds and feeding stuffs: Part I General methods.

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*Specification for test sieves (*revised*).

†Methods of tests for animal feeds and feeding stuffs: Part I General methods.

4. PACKING AND MARKING

4.1 Packing — The material shall be packed in HDPE bags or jute bags with loose polyethylene film or in such other containers as agreed to between the purchaser and the supplier. The material shall be packed in 25- or 50-kg container or as agreed to between the purchaser and the supplier.

4.2 Marking — Each bag shall be suitably marked indicating clearly that the material is 'for manuring' and shall also be marked with the following information:

a) Name of the material,

b) Name of the manufacturer,

c) Batch number,

d) Net mass, and

e) Date of packing.

4.2.1 The bags may also be marked with the ISI Certification Mark.

NOTE — The use of the ISI Certification Mark is governed by the provisions of the Indian Standards Institution (Certification Marks) Act and the Rules and Regulations made thereunder. The ISI Mark on products covered by an Indian Standard conveys the assurance that they have been produced to comply with the requirements of that standard under a well-defined system of inspection, testing and quality control which is devised and supervised by ISI and operated by the producer. ISI marked products are also continuously checked by ISI for conformity to that standard as a further safeguard. Details of conditions under which a licence for the use of the ISI Certification Mark may be granted to manufacturers or processors, may be obtained from the Indian Standards Institution.

5. SAMPLING

5.1 Representative test samples of the material shall be drawn as prescribed in Appendix B.

6. TEST METHODS

6.1 Tests for the requirements tested under **3** shall be carried out according to the methods prescribed in Appendix A and IS : 7874 (Part I)-1975*.

---

*Methods of tests for animal feeds and feeding stuffs: Part I General methods.

APPENDIX A

[*Clause* 3.3, and *Table* 1, *Item* (ii)]

METHOD OF TEST FOR WATER INSOLUBLE ORGANIC NITROGEN

A-1. QUALITY OF REAGENTS

A-1.1 Unless specified otherwise, pure chemicals and distilled water (*see* IS : 1070-1977*) shall be used in tests.

NOTE — ' Pure chemicals ' shall mean chemicals that do not contain impurities which affect the results of analysis.

A-2. PREPARATION OF THE TEST SAMPLES

A-2.1 Representative test samples of the material shall be prepared as prescribed in **3** of IS : 7874 (Part I)-1975†.

A-3. GENERAL

A-3.1 Water insoluble organic nitrogen is determined by Kjeldahl method.

A-4. PROCEDURE

A-4.1 Proceed as prescribed in **5.2** to **5.4.1.1** of IS: 7874 (Part I)-1975† and calculate the water insoluble organic nitrogen as given in **5.5.1** of IS : 7874 (Part I)-1975†.

APPENDIX B

(*Clause* 5.1)

SAMPLING OF *MAHUA* CAKE FOR MANURING

B-1. GENERAL REQUIREMENTS

B-1.0 In drawing, preparing, storing and handling samples, the following precautions and directions shall be observed.

B-1.1 Samples shall be taken in a protected place not exposed to damp air, dust or soot.

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*Specification for water for general laboratory use (*second revision*).

†Methods of tests for animal feeds and feeding stuffs: Part I General methods.

B-1.2 The sampling device shall be clean and dry when used.

B-1.3 Precautions shall be taken to protect the samples, the material being sampled, the sampling device and the containers for samples from adventitious contamination.

B-1.4 The samples shall be placed in clean and dry containers. The sample containers shall be of such a size that they are almost completely filled by the sample.

B-1.5 Each container shall be sealed airtight after filling and marked with full details of sampling, date of sampling, batch or code number, name of the manufacturer and other important particulars of the consignment.

B-1.6 All the samples shall be stored in such a manner that there is no deterioration of the material.

B-1.7 Sampling shall be done by a person agreed to between the purchaser and the vendor and in the presence of the purchaser (or his representative) and the vendor (or his representative).

B-2. SCALE OF SAMPLING

B-2.1 Lot — All the bags in a single consignment of the material, drawn from a single batch of manufacture shall constitute a lot. If a consignment is declared to consist of different batches of manufacture, the batches shall be grouped separately and the batches in each group shall constitute a separate lot.

B-2.2 For ascertaining the conformity of the material in the lot to the requirements of the specification, samples shall be tested from each lot separately.

B-2.3 The number of bags to be selected from the lot shall depend on the size of the lot and shall be in accordance with Table 2.

TABLE 2 SCALE OF SAMPLING

Number of Bags in the Lot (1)	Sample Size (2)
Up to 50	3
51 ,, 100	4
101 ,, 200	5
201 ,, 300	7
301 ,, 800	8
801 ,, 1 300	9
1 301 and above	10

B-2.3.1 The jute bags shall be chosen at random from the lot and for this purpose a random number table shall be used. For guidance and use of random number tables, IS : 4905-1968* may be referred. In the absence of a random number table, the following procedure may be adopted:

> Starting from any bag in the lot count them as 1, 2, 3,......, up to *r* and so on where *r* is the integral part of N/n, N being the number of bags in the lot and n the number of bags to be chosen. Every *r*th bag so counted shall be withdrawn to constitute the required sample size.

B-3. TEST SAMPLE AND REFEREE SAMPLE

B-3.1 Draw by an appropriate sampling device equal quantities of material from the top, bottom and the sides of each bag selected according to Table 2. The total quantity of material drawn from each bag shall be sufficient to make triplicate determinations for all the characteristics given in the specification. Mix all the portions of material drawn from the same bag thoroughly.

B-3.1.1 From the mixed material from each selected bag a small but approximately equal quantity of material shall be taken from each selected bag so as to form a composite sample. The quantity of material in the composite sample shall be sufficient to make triplicate determinations for all the characteristics tested on the composite sample. The composite sample shall be divided into 3 equal parts and transferred to clean and dry containers and labelled with the particulars of sampling given in **B-1.5** and sealed airtight. One of these samples shall be for the purchaser, another for the supplier and the third for the referee.

B-3.1.2 The portions of material from each selected bag (after the material for composite sample has been taken) shall constitute a test sample representing that particular bag. These shall be transferred immediately to clean and dry sample containers sealed airtight. These shall be labelled with the particulars of sampling given in **B-1.5.** The individual samples obtained as above shall be formed into 3 sets in such a way that each set has a test sample representing each bag selected. One of the sets shall be for the purchaser, another for the supplier and the third for the referee.

B-3.1.3 *Referee Sample* — Referee sample shall consist of a set of test samples (*see* **B-3.1.2**) and one composite sample (*see* **B-3.1.1**) and shall bear the seals of purchaser and the supplier. It shall be kept at a place agreed to between the two and used in case of a dispute.

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*Methods for random sampling.

B-4. NUMBER OF TESTS

B-4.1 Tests for water insoluble organic nitrogen shall be conducted on each of the individual samples.

B-4.2 Tests for remaining characteristics given in Table 1 shall be conducted on the composite sample.

B-5. CRITERIA FOR CONFORMITY

B-5.1 The lot shall be declared as conforming to the requirements of the specification if each of the test results on the individual sample satisfies the specified requirements and all test results on the composite sample meet the relevant requirements given in the specification.

(*Continued from page* 2)

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